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Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment of the Commission's Rules	)	PR Docket No. 92-257
Concerning Maritime Communications	)	
	)	
Petition for Rule Making filed by	)	RM-9664
Regionet Wireless License, LLC	)	

To: The Commission

PETITION FOR RECONSIDERATION

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Summary of the Filing

Mobex Communications, Inc. respectfully requests that the Commission reconsider its adoption of amended Rule Section 80.385(b) insofar as the amended rule provides a service contour of 38 dBu and a protection ratio of only10 dB for incumbent Automated Maritime Telecommunications Systems. Mobex demonstrates that, to provide the required continuity of service, it designed portions of its incumbent system based on a service contour of 17 dBu and that its end users rely on the existing contours for reliable AMTS service.

A 38 dBu service contour would create dead zones which would serve neither the end users of the incumbent nor the auction winner. Mobex demonstrates that the Commission was in error and that an auction winner could interpose a station between incumbent Mobex stations and destroy the continuity of service which the Commission's Rules require of Mobex. With Mobex service contours reduced to 38 dBu, an auction winner could force Mobex customers to pay tolls between the interrupted Mobex stations and could use inserted stations to harass incumbents. AMTS is a VHF Maritime service and established Part 80 Rules should continue to protect incumbents' ability to serve end users.

The Second Memorandum Opinion and Order challenged proponents of an 18 dB interference protection ratio to show that that level of protection is required. The most recent Commission action concerning interference protection provided 18 dB of protection to certain other stations in the VHF band. Mobex amply demonstrates herein that 18 dB of protection is required to protect the service of incumbent systems and the safety of end users.

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To: The Commission

PETITION FOR RECONSIDERATION

Mobex Communications, Inc. ("Mobex"), pursuant to Section 1.106 (b) (1) of the Rules and Regulations of the Federal Communications Commission ("FCC or Commission"), hereby respectfully submits this Petition for Reconsideration of the *Second Memorandum Opinion and Order and Fifth Report and Order* ("Second Order") in the above-captioned proceeding. Mobex by this Petition requests the FCC to reconsider its action taken to limit incumbents such as Mobex to a service area contour which will be too small to permit Mobex to comply with the Commission's requirement for a continuity of service to waterways and to continue provision of service by Mobex to current and future customers.

I. BACKGROUND

Mobex has standing to file this Petition because it is the largest incumbent holder of AMTS licenses in the nation and is adversely affected by the Commission's action in the Second Order.[1] Operating under the WATERCOM tradename, Mobex provides service to 90% of the towboats which push barges up and down the Mississippi River and its tributaries, as well as the Gulf of Mexico, and the inland waterway system. This WATERCOM service was the pioneer of the AMTS band, and WATERCOM has operated to support the critical infrastructure of the United States for nearly two decades. This critical infrastructure includes the loading, transshipment, and unloading of energy resources like coal, oil and natural gas, as well as other industrial items like sand, gravel and petrochemicals, and foodstuffs, including the majority of the grain from the Midwest. A trip today to any riverfront city like St. Louis, New Orleans, or Pittsburgh would include a view of towboats and barges which use our WATERCOM system.

To coordinate this constant bustle of vessels laden with their cargo heading south, and empty vessels returning north, WATERCOM provides wireless communications along the length of the riverway system, and out into the Gulf of Mexico -- all in a seamless and uninterrupted fashion from Minneapolis to New Orleans, and from Pensacola to Brownsville, Texas. WATERCOM owns over 50 towers along the waterways, and leases

[1] Mobex Communications, Inc. owns a controlling interest in its affiliate, Mobex Network Services LLC ("MNS"). MNS is the official holder of record for the licenses in the AMTS band which are the subject of this proceeding. For its part, MNS operates under the tradenames WATERCOM and Regionet in its areas of operations around the country.

several other towers, to ensure uninterrupted, continuous coverage 24 hours a day, 7 days a week, to all parts of the world's third longest river system: the Mississippi and its tributaries. This investment has been immense, but the rewards for the operators of the barges and towboats are even more significant.

For example, a towboat can send and receive voice calls from all areas of the riverway system, whether it be for business or personal use. Crew members can call home at any time, to catch up on the day's little league results or conduct personal business. In addition, the WATERCOM service offers fax and data transmission features, so that boats can wirelessly request supplies to be prepared for the next port of call, order repairs or a change of crews without stopping for more than a few moments at the next port to load and unload the pre-ordered items. As in most industries: time is money. By saving towboat captains and crews time in dock, the WATERCOM system allows them to operate efficiently, thus lowering the cost of transport for the basic commodities which serve us all: food, heating, gasoline, etc. And by allowing crew members (the average crew is ten people) to stay in contact with their families and friends during long absences, as well as to conduct banking and other personal business matters, WATERCOM fulfills the crews' need for both business and personal communications.

Even more important is the public safety role of the WATERCOM system. If a towboat with barges hits a bridge in the fog, serious loss of life and damage to property can occur. Chances are that that towboat will be a WATERCOM customer, and it will therefore be able to call for emergency response on both land and water, using the 24/7 availability of the WATERCOM system. In most places along the riverway, there simply is no alternative to WATERCOM. Thus, WATERCOM equals emergency communications to the towboat and barge industry. And it is indeed a hazardous industry, with constantly changing river currents, weather, and dangerous materials being transported. The key to prompt emergency response is our ubiquitous coverage. Crews can call emergency Coast Guard and land based EMS responders, including local police, fire and ambulance, using the WATERCOM system. Cellular and other systems do not work in most areas where towboats and barges operate. Instead, Mobex's WATERCOM system is their lifeline.

Mobex operates not just under the WATERCOM tradename in the Midwest and Gulf of Mexico areas, but under a similar AMTS tradename on the East Coast, Great Lakes, and West Coast, which tradename is Regionet. Like WATERCOM, Regionet has held its licenses and provided service to the public for many years and was acquired by Mobex in the year 2000.

In our nation today, great emphasis is placed upon national security, and with good reason. The attacks of September 11th showed to us the vulnerability of our landmarks

and installations. Bridges, oil refinery docks, even barges themselves, could be the target of terrorist attacks. Exhibit I hereto is a newspaper report of the destruction of a highway bridge by a barge on May 26, 2002. While the incident does not appear to have been intentional, the incident demonstrates the ease with which land and water transportation could be disrupted intentionally. Such an incident in a major urban area would require the very best in radio communications to avoid further loss of life and property both on land and on the water. Reliable AMTS service can provide the public with an extra margin of protection in such maritime related situations. Mobex rightly serves a role in protecting the security of landmarks, installations, and other vessels on the waterways. Using our AMTS system, crews can report suspicious activities to local and federal law enforcement on a real-time basis. Similarly, response to any terrorist attacks will be hastened by the availability of communications on the waterways.

Only with WATERCOM's and Regionet's current continuous coverage can this pre-emptive capability be intact and a prompt response to terror attacks be ensured. The tower sites that have been constructed or leased by Mobex are based on a 17 dBu contour. In other words, Mobex's service offers continuous coverage today, and has for nearly twenty years, by relying upon the excellent propagation characteristics of the 217-219 MHz AMTS band, and spacing its towers 17 dBu apart.

The licenses issued to Mobex's WATERCOM and Regionet divisions were all issued with 17 dBu contours. In fact, Regionet and WATERCOM based their applications and their ultimate system construction along thousands of miles of coastline solely upon the 17 dBu contours granted to them by the FCC.

Regionet and WATERCOM tradenames today are proud symbols of a licensee that has invested millions of dollars to develop a seamless system of communications along the coastlines of the nation's riverways, lakes and seashores. In a telecommunications industry which is today replete with highly leveraged companies which are asking the FCC to delay construction deadlines, postpone auctions, or give them other financial relief, Regionet and WATERCOM have lived up to the public trust placed in them as licensees: we have constructed and are operating our facilities, rather than letting the valuable public spectrum lie fallow.

To summarize, Mobex today offers seamless coverage as per our license applications and grants. That coverage is seamless because it is based upon a 17 dBu contour. We have operated under WATERCOM and Regionet for nearly twenty years with this coverage contour, and the voice and data quality is excellent.

II. PETITION FOR RECONSIDERATION

A. Incumbent Service Contour Should Not be Diminished

1. Licensees Were Free to Pick Their Contours So Long as Continuity Existed

The FCC rules mandate that an AMTS incumbent provide continuity of service along the waterway.[2] The FCC rules specifically state that AMTS licensees must provide continuity of service to either a substantial navigational area along a coastline; or sixty percent of one or more inland waterways, except that a waterway less than 240 kilometers (150 miles) long must be served in its entirety, and waterways small enough to be served by a single station are not eligible for AMTS service.[3] In its declaratory ruling released to Warren C. Havens on August 15, 2002, the Wireless Telecommunications Bureau stated that "the term 'integrated' conveys the requirement that the base stations in an AMTS system must be connected, thereby ensuring seamless communication throughout the system for a vessel traveling along a served waterway."[4] This ruling, released subsequent to the Second Order, makes absolutely clear that the Commission cannot adopt a new service contour rule that would disrupt the seamless communication of adjacent AMTS stations.

This requirement for continuity of service is not shared by the 220 MHz band, nor is it present in any other CMRS service. It is a unique pre-requisite for becoming an

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[2] 47 C.F.R. § 80.475(a).

[3] *Id.*

[4] 17 FCC Rcd _____, _____ (DA 02-2024 Released August 15, 2002) (footnotes omitted).

AMTS licensee. In fact, applicants for AMTS licenses that did not show continuity of service on their applications had those applications dismissed *prima facie*.[5] For example, an applicant applied for the Great Salt Lake but proposed to cover only part of it, so the application was dismissed.[6]

In reviewing applications, the FCC permitted an applicant to use either the 17 dBu or the 38 dBu contour, or any other contour the applicant could justify, as long as the continuity of service was met. Thus, the Commission granted licenses based upon the engineering requirement not of the size of the contour, but of the continuity of service and left it to each applicant to determine how it would meet that continuity of service.

The FCC admits this in paragraph 32 of its Order, in which it states that ". . . authorizations of incumbent AMTS stations were not granted upon a specific service contour, only upon a showing of continuity of service."[7] Note 144 provides further guidance: "the Commission, when reviewing applications, would exercise its engineering

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[5] *See, e.g.*, In the Matter of Applications of Warren C. Havens for Automated Maritime Telecommunications System Stations at Various Locations in Texas, 16 FCC Rcd 2539 (2001). Commission focused on continuity of service requirement in finding that Havens's applications were defective because they did not propose 60 percent coverage. *Id.* at 2548 ¶6.

[6] *See* Wireless Telecommunications Bureau, Site-by-Site Actions, *Public Notice* 221661, *Report* 1152 (April 17, 2002) (dismissal of Mobex Communications Great Salt Lakes license application).

[7] Amendment of the Commission's Rules Concerning Maritime Communications, *Second Memorandum Opinion and Order and Fifth Report and Order*, PR Docket No. 92-257, 17 FCC Rcd. 6685, 6701 ¶32 (2002).

judgment regarding the size of the service contours and whether the proposed system would provide continuity of service."[8]

That continuity of service, however, was based on the applicant's submission of its contours. At no time did the Commission substitute its own contours, or different contours, to an application. There is simply no proof that anything other than the applicant's contour submission was used to grant or reject its application. Instead, the Commission accepted or rejected applications based solely upon the contours presented in the application itself.

Because AMTS licenses fall within the maritime portion of the Commission's rules, known as Part 80, Mobex naturally chose the 17 dBu contour, which is used in the other Part 80 maritime services, including the VHF Public Coast Service.[9] WATERCOM applied for and received its licenses based on the 17 dBu contour. It then built 50 towers along the inland waterways, so that it could meet its FCC mandate for continuous coverage. Commercial towers did not even exist in most parts of the riverway and still do not exist today in many parts of the riverway. Thus, WATERCOM relied on the FCC's grant of its license at 17 dBu contours and built not just a wireless equipment infrastructure, but 50 towers to support that system, as well. Attached as

[8] *Id.* at n.144.
[9] By definition, lying between 30 MHz and 300 MHz, the AMTS frequencies are Very High Frequencies.

Exhibit II hereto are maps of this system based upon 17 dBu contours. 38 dBu contours are also shown. Each site is owned by WATERCOM unless otherwise specified.

Similarly, Regionet applied for and received its licenses with a 17 dBu contour. Regionet constructed its system along the Pacific, Atlantic, and Great Lakes coastlines -- over 3,000 miles in total -- in a manner which meets the continuity of service prerequisite utilizing the approved 17 dBu contours.

The other operating licensee in this service, Paging Systems, Inc. (PSI), filed most of its applications using 17 dBu contours, and built its systems on that basis. The FCC's salient rule was not which contour was chosen -- *instead, the salient rule was that the contour chosen must provide continuity of service sufficient to meet the requirement.*[10] The engineering studies attached as Exhibits III and IV hereto demonstrate that superimposing a new 38 dBu contour, would impermissibly sever the continuity of service upon which the AMTS incumbent licenses are based.

2. Dead-zones Serve Neither the Incumbent nor the Auction Winner

The FCC has adopted a preliminary rule which states that the only contour to be used is the 38 dBu contour. The FCC was not yet convinced by Mobex and Motorola's filings showing that a 17 dBu service contour is needed for incumbents to maintain continuity of service. The FCC reasoned that paring back an incumbent to a 38 dBu contour would not

[10] *See* 47 C.F.R. § 80.475(a).

damage the incumbent's ability to provide continuity of service; the FCC reached this belief on the premise that no auction winner could place a transmitter between an incumbent's 38 dBu contours due to the fact that transmitters have to be more than 72 miles away from an incumbent's contour. To support this claim, the FCC stated in Paragraph 32 of its Second Order that:

> Our own engineering analysis of incumbent systems that were designed on the basis of a larger service contour, such as 17 dBu, demonstrates that the system's continuity of service will not be severed (*i.e.*, that it will not be possible for a geographic licensee to interpose a facility between co-system incumbent stations) if the incumbent is protected to a 38 dBu service contour.[11]

Thus, because of the "72 mile" rule, it appears that the FCC believed that no third party auction winner could serve the space between Mobex 38 dBu contours. The FCC should rethink this position. Exhibits III and IV hereto demonstrate clearly that a third party auction winner could intrude between Mobex 38 dBu contours. The resulting "dead zone" created by the Commission's initial decision would make little sense for the auction winner and incumbent alike. It would, instead, create a dead zone wherein incumbents wished to operate but were not authorized, while the auction winner would be technically licensed but unable to operate effectively, except to harass the incumbent. Such a dead zone scenario does not further the interests of the incumbent, the auction winner, or the public which will not be able to obtain service in the dead zone.

[11] *Second Memorandum Opinion and Order and Fifth Report and Order*, 17 FCC Rcd at 6701.

Nor does the FCC gain much additional auctionable space. Exhibits III and IV show that Mobex's coverage of the tertiary areas around urban centers would be reduced when going from 17 dBu to 38 dBu contours, but that little or no meaningful increase in auctionable areas for the FCC would result. The auction bidder will not be able to value the additional area with any certainty, so its bid would not be significantly higher than it would in the case of a 17 dBu incumbent contour.

Mobex believes the Commission needs more information about the impact of this new rule. Mobex understands the attractiveness to the Commission of having additional areas to auction, but the area created by reducing the 17 dBu contour to a 38 dBu contour does not give the Commission much "buck for its bang." To the contrary, the new rule creates more disruption than it resolves. The incumbent, Mobex or PSI, will not be able to comply with the FCC's prerequisite for continuity of service, because the uninterrupted system of interlocking 17 dBu circles has now been transformed into a disjointed patchwork of 38 dBu circles. Exhibits III and IV show this impact.

And the bidder will not place a high value upon the extra space created between contours. This bidder hesitation will be due to the fact that it is unclear how much can be served on the ground in reality, versus a propagation map.

3. The Public Interest is Disserved

The FCC must render decisions which are in the public interest, and it does so with great regularity. We regret to conclude that the consumer of riverway communications would be disserved by the FCC's 38 dBu contour rule.

Under both the Administrative Procedure Act (the "APA"), and the Communications Act of 1934, as amended (the "Act"), the FCC is charged with allocating spectrum resources in a manner which furthers and promotes the public interest.[12] This "public interest" obligation has been defined to include prompt provision of service to the public. Mobex has built its system, using its own funds, and has provided service to the public for years under the WATERCOM and Regionet names.

Now, the FCC would unintentionally deny service to current Mobex customers operating within the formerly continuous waterway communications systems. This is not a matter of imposing additional cost on Mobex to provide the service it has provided to the public. Instead, it is a matter of securing the public's interest in ensuring uninterrupted service along a string of connected riverways and coastlines. The primary service in the AMTS band, unlike the Part 90 CMRS bands, is maritime service.[13] Using the 17 dBu contour, WATERCOM vessels can operate from the Ohio River in Pittsburgh, down to the

[12] *See* 5 U.S.C. § 553(b)(3), (2002); and, 47 U.S.C. §§ 151, 157 & 307, (2002).

[13] *See* In the Matter of Amendment of the Commission's Rules Concerning Maritime Communications, *Second Report and Order and Second Further Notice of Proposed Rulemaking*, PR Docket No. 92-257, 12 FCC Rcd 16949, 16953-16955 (1997).

Mississippi River, through St. Louis to New Orleans, and then along the Gulf of Mexico coastline without ever leaving their coverage areas. In changing its rule to permit co-primary operations of land based services, the FCC explicitly preserved the requirement that maritime operations take precedence over land based services. The Commission recognized that the public has an ongoing interest in receiving communications on the waterways using these AMTS systems.[14] Yet, the FCC's rule change will deny communications to those currently using them in all the disconnected areas of operation between Pittsburgh and New Orleans, and along the Gulf of Mexico from Brownsville, Texas, to the Florida Panhandle. The situation is the same for the seashore and Great Lakes areas served by both PSI and Mobex's Regionet tradename: loss of ubiquitous service for a transportation public that needs ubiquitous service.

4. The Result Would Be The Inefficiency of Multiple Operators

Understandably, the Second Order suggested that it may be difficult for auction winners to engineer a site between the disjointed 38 dBu contours. However, our experience in the telecommunications industry leads us to conclude that any combination of factors, including advances in technology, the existence of natural barriers like mountains and trees, and old-fashioned human ingenuity render it very likely that an auction winner will serve the entire area it is purchasing, including the "dead zone" in between an incumbent's 38 dBu circles.

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[14] *See* Amendment of the Commission's Rules Concerning Maritime Communications, *Fourth Report and Order and Third Further Notice of Proposed Rulemaking*, PR Docket No. 92-257, 15 FCC Rcd 22585, 22605 ¶ 39 (2000).

This interposition of small systems along the riverway which are owned by third parties would force boats to carry two or even more redundant radios and subscribe to multiple services so they can, at a minimum, always send emergency communications, depending upon where they are in the riverway. Yet, towboat pilothouses are no larger than the cockpit of a tractor trailer, and space is similarly limited. Likewise, the possibility that several new operators with incompatible systems could spring up along the river means that more than two radio systems may be needed, where just one fits the need today.

Imagine a scenario in which another bidder won the dead zones along the 1,500 miles of the Mississippi River system served today by only WATERCOM. In order to maintain continuity of service, for emergencies and for business purposes, a boat owner who today uses one radio system, would be required to buy two different radios and subscribe to two different service providers -- one for each stretch of the riverway. This scenario is exactly what the FCC was trying to avoid when it adopted the AMTS service requirements for continuity of service by the licensee.[15] Mobex has fulfilled its duty of continuity of service, and even exceeded its mandate by building its own towers in areas where none existed, all so that the communications users on the waters could be in constant contact with the rest of the world on land and with other vessels on the waterway. The Commission's Rules should not imperil existing continuity of service and impose new burdens on end users.

[15] *See* 47 C.F.R. § 80.475(a).

5. The Rule Creates an Incentive for Auction Winners to Charge a Toll for Passing Through Their Areas

By licensing dead zones in between an incumbent's operations along a riverway or coastline, the FCC is unwittingly creating a scenario for blackmail by the auction winner. If the auction winner cannot provide meaningful service, it can make sure that the incumbent does not, either. For example, an auction winner could beam a narrow path across the river, or establish a similar blockage of service between 38 dBu contours in order to exact a toll along the waterway from the incumbent and/or its customer. Such a toll is inefficient economically and is not the goal of a sound public policy. Mobex believes the FCC does not intend to create such a situation, but its new rule could lead to just such a result.

6. The Rule Contradicts Other FCC Rules and Policies

This rule has the effect of rendering Mobex in non-compliance with FCC rules for continuity of service -- without any ability under the rules to return to a state of compliance with the rules -- short of purchasing spectrum at auction. In other words, we must serve the waterways in an uninterrupted fashion. Now, the Commission has interrupted that service, but not given us the opportunity to amend our existing licenses so we may place transmitters in locations to fill in the gaps created by the FCC's new rule. If the Commission wishes to adopt 38 dBu contours, then it should give Mobex additional time to add sites so that continuity of service remains unchanged from the current system based upon the 17 dBu applications which the FCC granted 20 years ago. Without that time to

construct fill-in sites, the rule limiting Mobex to 38 dBu contours, while at the same time forcing us to maintain continuous coverage but not letting us build more sites even at 38 dBu, works an arbitrary and capricious result.

7. Part 80 Rules Should Govern the Contour

Mobex naturally relied upon the FCC's Part 80 Maritime Communications rules when determining which service area it should use in its applications for licenses. The FCC now wishes to import a Part 90 service contour, without any explanation of why the Maritime rules are not sufficient for its purposes. AMTS is a FM service, while the 220-222 MHz was designed for AM service. The Part 80 rules for Maritime Services include not just VHF AMTS, but other Maritime Services, including the VHF Public Coast station service. In the VHF Public Coast Service auction, the FCC applied the 17 dBu contours, which are contained in the Part 80 service. There, the FCC refused to import a contour rule from another service, particularly an exclusively land-based, AM, Part 90 service, such as the 220 MHz service.

The FCC surely complied with Section 309(j)(7)(A) of the Act, 47 U.S.C. § 309(j)(7)(A) and did not base its decision on whether more revenue will be raised at auction by diminishing incumbent contours. Yet, we find no evidence in the record, indeed, no explanation of why this 38 dBu contour is more compelling than the traditional, VHF, FM, Part 80 contour. There simply was a lack of complete information in front of the Commission, we believe, and we are trying to rectify that situation herewith so that the

Commission can make a fully-informed decision before resorting to the importation of the Part 90 rule for service area in the auction. Mobex notes that no other Part 90, AM, 220 MHz service rule was adopted by the FCC in its Order. In fact, both the operators and the manufacturing community supported adoption of the VHF Part 80 rules with absolute unanimity.

As a Maritime, Part 80 licensee, Mobex is rule-bound to provide priority access to maritime users. It is a Part 80 service, so the time-tested Part 80 rules should govern the contour issue as well.

Since AMTS did not have a specific guideline as to service contour, we looked at the service contour defined for the VHF Coast Station Service. As both VHF Coast Station Service and AMTS are both "VHF" services (the VHF band being defined as 30-300 MHz) and the frequency bands are close together, we considered this to be a reasonable service contour assumption. Moreover, as the VHF Coast Station service was a "manual" service, allowing for the operator to make some distinction between a wanted and unwanted signal, it was our view that an automated system, without this deductive element, would require a service contour (at which a C/I ratio would be applied) at least comparable to that of a manual service.

Mobex therefore applied for the licenses using 17 dB contours, which the FCC accepted for filing without modification, and consequently granted. Thus, Mobex had

every expectation that the grant included a 17 dB service contour, as that had been what was generally applicable in comparable Part 80 services which compete with AMTS.

Mobex has continuously used the 17 dB contour as the basis for determining where service could be provided, as well as our business development projections. Under the current rules incumbent licensees are allowed to build fill-in stations within their identified service contours, and, in fact, Mobex has done just that in several places to date (including Boston, MA; Avon, CT; and Washington, DC). Again, since the FCC did not reject, or even question, the original 17 dB contour specified in the original applications, Mobex built these stations per the rules in force.

Mobex would consider it inequitable for the FCC now to institute a new service contour, applying it retroactively, thereby negating all precedent, and amending long-standing policy without due process of law. To maintain the continuity of service required by the Commission and relied on by incumbents' end users, the Commission should define the incumbent service contour at the 17 dBu level.

B. A Carrier to Interference Ratio of 18 dB is Needed

A 10 dB co-channel interference protection may be adequate with the amplitude modulation used in the 220-222 MHz band, but it will be inadequate for AMTS incumbents who use frequency modulation (FM). The experience of Motorola, Inc.

(Motorola) demonstrated that FM trunked systems in the 800 MHz and 900 MHz bands could not receive adequate co-channel interference protection at 10 dB, but instead required 14 to 17 dB protection.

Yet, the Commission was cautious in lieu of the submission of further information; it determined in paragraph 33 that "[B]ecause Motorola presented an engineering analysis specific to its [800 MHz] service, the Commission was able to make a reasoned decision regarding its request for a greater co-channel protection standard in the 800/900 MHz bands. Given the differences in propagation characteristics, we feel that the burden is on the proponents to demonstrate why the Motorola 800/900 MHz analysis should govern our decision in the AMTS band."[16]

More recently, Motorola affirmed and expanded its advice concerning the required interference protection ratio. Attached to the Initial Comments of Nextel Communications, Inc., in WT Docket 02-55 is an engineering statement of Leonard Cascioli, Vice President – RF Engineering and Operations at Nextel. At paragraph 22 of his statement, Cascioli stated that discussions with vendors and analysis of mobile data systems,

> Indicates that they typically require a C/(I+N) ratio of 25 dB or greater (30 dB in some instances) to perform adequately. The typical voice system requires a C/(I+N) of 17 dB. The more stringent C/I+N requirement appears to be driven by (a) the greater potential for the RF link between the mobile data terminal and a serving base station to fade destructively (i.e. fade such that portions of the

[16] *Second Memorandum Opinion and Order and Fifth Report and Order*, 17 FCC Rcd at 6700.

> message are irretrievably lost) during the time that a message is sent from the base station to the mobile data terminal combined with (b) the fact that a computer, rather than a human ear and brain, is attempting to decode the received signal. These factors make the increased C/I+N requirement reasonable in and of itself; however, the implemented system design must be robust enough to maintain this elevated C/I+N in the actual environment the system must operate in.[17]

The Mobex system relies on digital signaling for call setup. Mobex is currently negotiating for additional equipment, all of which will use digital signaling for call setup. Mobex expects the market for AMTS mobile data will increase rapidly, necessitating an adequate Carrier to Interference plus Noise ratio to meet the needs of the public. The Commission should carefully consider Mr. Cascioli's statement, because allowing interference ratios to rise to as little as 10 dB would forever preclude the public from enjoying reliable call setup and mobile data on incumbent AMTS systems.

Attached at Exhibits III and IV are demonstrations of why the Motorola analysis at 800 MHz applies to warrant greater than 10 dB C/I protection in the AMTS band. Clearly, these studies shows that 10 dB is not enough, even for an analog system, in the AMTS band. For a digital system, 10 dB would be disastrous. While Mobex uses an analog 12.5 kHz narrowband voice technology, its signaling and call set up is digital. Therefore, the adopted C/I standard must encompass digital transmission and avoid an excessive rate of data errors.

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[17] *See* Comments of Nextel Communications, Inc., *In the Matter of Improving Public Safety Communications in the 800 MHz band; Consolidating the 900 MHz Industrial/Land Transportation and Business Pool Channels*, WT Docket No. 02-55, app. (May 6, 2002).

On June 6, 2002, the Wireless Telecommunications Bureau (the WTB) released a Public Notice concerning required interference protection ratios in the Private Land Mobile Radio bands between 150 and 470 MHz, Wireless Telecommunications Bureau Accepts and Approves Consensus Analytical Method for Determining Additional Frequency Coordination Requirements for Certain Private Land Mobile 150-470 MHz Applications (the "Bureau's Standard").[18] A copy is attached hereto as Exhibit V. In the Bureau's Standard, the WTB established a service contour for certain VHF stations of 37 dBu and an interference contour of 19 dBu for proposed co-channel stations. By definition, AMTS is a VHF service. The protected stations operate on frequencies formerly allocated for use by the Power, Petroleum, Railroad, Manufacturers, Forest Products, Telephone Maintenance, Motor Carrier, and Automobile Emergency Radio Services. Eligibles in those Radio Services were all entities whose activities incorporate more than the usual level of concern for protection of the safety of life and property. Like those Radio Services, the Maritime Radio Services provide the first line of protection for the safety of mariners. Having established an interference protection of 18 dB (37 dBu – 19 dBu) for these land mobile uses, it would be unreasonable for the Commission to provide incumbent AMTS systems with any less protection for the safety of their users.

[18] 17 FCC Rcd 10628 (DA 02-1319 Released June 6, 2002)

CONCLUSION

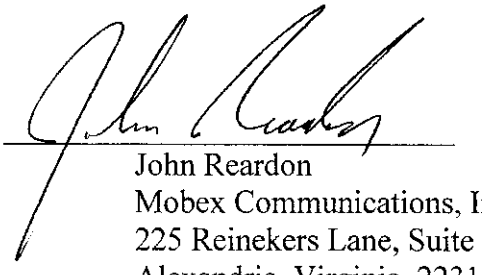
The FCC's Second Order provides that an auction winner must place its transmitter no closer than 120 kilometers (roughly 72 miles) away from an incumbent's service contour. However, the FCC's new rule adopts a 38 dBu contour as the protected incumbent contour. Mobex's engineering studies show that we lose continuity of service with 38 dBu contours, and the FCC itself seems to admit that we lose such continuity, but the Commission then explains that no auction winner would build in the space between because it would not be feasible. This is hardly a consolation to Mobex's subscribers, since the capabilities of the auction winner and future technology developments, as well as the vagaries of terrain, make it almost certain that new stations would be constructed, even if just to create a nuisance to the incumbent and thereby exact some form of toll or tribute. Part 80 rules should govern this Part 80 service, and the 17 dBu contour rule is no exception. The Commission should apply a 17 dBu contour to incumbent systems and clarify that fill-in stations constructed prior to auction remain in service and are entitled to protection.

The attached engineering studies clearly show that a C/I ratio of 10 dB is not adequate for an FM system in the AMTS band. Instead, 18 dB is needed.

Mobex has reviewed a draft of the Petition for Reconsideration to be filed by Paging Systems, Inc. in the above captioned matter and fully supports the positions therein. To avoid burdening the record, Mobex will not reiterate those points here.

WHEREFORE, THE PREMISES CONSIDERED, Mobex Communications, Inc., respectfully requests, based on the public interest and public safety, that the Federal Communications Commission reconsider its decision to adopt a 38 dBu contour for incumbents who have built systems based upon continuity of service through a 17 dBu contour. Similarly, Mobex requests the FCC to adopt a 18 dB Carrier to Interference Ratio, in accordance with the engineering studies submitted herewith.

MOBEX COMMUNICATIONS, INC.

By: 

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Dated: August 23, 2002